

Electronic Signatures

The evolving use of signatures



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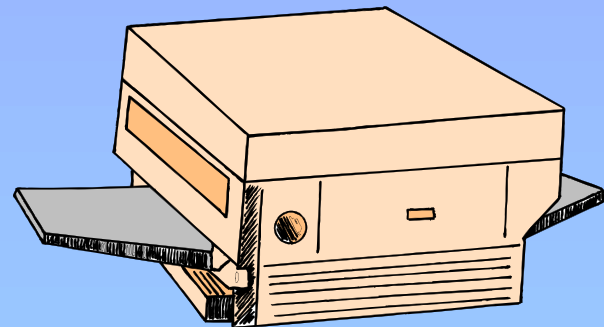
Changes in the legal and practical relationship
of signature to identity

Trends in electronic signature and electronic identity use

Identity touches everyone your office interacts with,
electronic identity and electronic signatures change how your
office can remotely interact with others.

Trends in signed electronic records management

Of course how and what we sign has never changed until now.



Signing and document management has changed before.

Technologies used before signatures

- ring to hot wax on envelope
- letter of introduction
- notary

“... *technology*... means the processes by which an organization transforms labor, capital, materials, and information into products and services of greater value.”

Clayton Christensen, *The Innovator's Dilemma*

Legal Conception of Signature

General Purposes of Signing

- *Evidence*: a distinctive mark of the signer
- *Ceremony*: calls attention to the act
- *Approval*: implies approval and binding intent
- *Efficiency*: prima facie validation of the instrument (document)

Legal Conception of Signature

Requisite Attributes of Signatures

- *Signer Authentication*: proof of identity
- *Document Authentication*: proof of subject
- *Approval*: non-repudiable act should require conscious intervention
- *Efficiency*: provide maximum assurance with reasonable effort

Legal Conception of Signature

Contract Formation

- A *physical act or ceremony* traditionally accompanies contract formation (e.g., handshake, signed document) to show intent to be bound
- Contracts may be formed *in any manner sufficient to show agreement* (Electronic contracting replaces physical contact and cues with an exchange of *intangible bits of information* which can be reinforced with ceremony via interaction with other party or with the signing application)
- Contracts formed via *electronic signatures* can be valid and enforceable

Current Electronic Signature Use



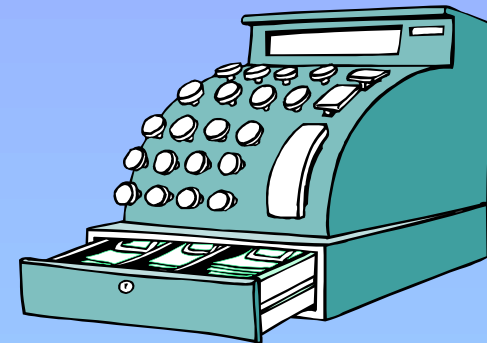
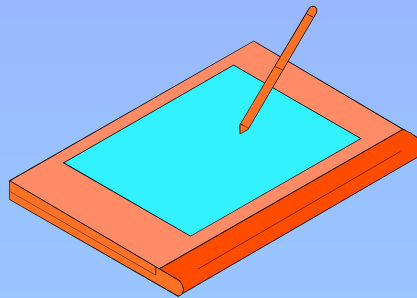
You sign a check **OR**



You “sign” an ATM withdrawal



You “sign” a debit/credit card purchase



Secure system based signing processes - the proof is in the system.

Legal Conception of Signature

Signing is signing. Right?

Signing for a package delivery
Signing a credit/debit card purchase
Signing a car rental agreement
Signing a mortgage or deed
Signing a last will and testament



Determining when to use a "signature" and what type.

- Identify transactions that can be streamlined by becoming electronic events.
- Consider what the signature requirements for the transaction are.
 - Is there a need for a formal “legal” signature?
 - Will strong authentication of identity be enough?
(via a password, PIN, etc.)

The main push for electronic signatures now is for more formal needs. Financial transactions routinely occur now, but more contractual signings may need a process that is:

- more strongly linked to the person
- more durable - the signed record/document endures for the “legal” life of the contractual obligation.

What is a “secure” signature?

Consider the reasons to use a *secure electronic signature*:

1. to identify the person signing
(the identification function);
2. to indicate that person’s approval
of the information contained in that data message
(the authentication function);
3. to indicate that the record has not been altered
(the integrity function).

Is that level of “signing” necessary?

Arizona's simplified secure form of Electronic Signatures

An electronic signature

shall be unique to the person using it,

shall be capable of reliable verification and

shall be linked to a record in a manner so
that if the record is changed the electronic
signature is invalidated.

Arizona Statute 41-132 B

(specific to signing by/with state agencies)

How do you link the person to their “signature”?

Types of signatures and records

How can you attribute an electronic record or signature to a particular person?

Rules of evidence -

Reliably link person via Ceremony and Context to the record or signature

- “context and surrounding circumstances at the time of its creation, execution, or adoption, including the parties' agreement....”
- chain of trust

Debit card purchase at a store -

- sign here,
- the digitized image is printed on the receipt
- is that image legal proof of your intent?

Elements of Trust

- Trust in technical security
- Trust in operational procedures
- Trust in identification protocols
- Trust in warranty/ representations
- Trust in the transaction framework



Electronic Signature & Digital Signatures

- What are they?
 - a way to electronically commit a transaction, evidence of intent
- Credit Cards, PIN's, ID Badges, Thumb Prints (biometrics)
 - All are methods of committing transactions that give us the impression of binding the commitment to a party/individual
 - Could be used as the means for an electronic signature
- Digital Signatures are a subset of Electronic Signatures that use a particular set of tools (Digital Signature Certificate)
 - a certified digital representation of a signature (*not* an image but a representation!)
 - a certified digital representation of intention

It's a matter of Trust... ergo **Security Issues**

- ☑ How to trust electronic records - **digital signature**
- ☑ Is this who I think it is? - **authentication**
- ☑ Don't let unauthorized people change my stuff- **integrity**
- ☑ Don't let unauthorized people see my stuff- **confidentiality**
- ☑ Don't let them do it and say they didn't- **non-repudiation**
- ☑ Don't let them stop my work- **denial of service**

Next - expectations of e-signatures in the world

- We have “trivial” electronic signatures now (passwords, PIN’s). For remote interactions (e.g. the Internet), we will need stronger identification and occasionally stronger signing methods. How?
- “Trivial” signing means short term electronic recordkeeping, “serious” signing means long term electronic recordkeeping.
What do I do?
- With serious signing, we need to know that wherever the long term record goes, it will be accessible. What do I do?
- What can we use to sign that will keep the result legal and accessible?
- How does this new method of signing change my office?
What can I do better/easier now?
- What can my clients, vendors and partners do better/easier now?
- Who else is in my corner? Who can I work with on this stuff?